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To: Distribution

Subj: WELL LOCATION MEETING MINUTES, NAVAL AIR STATION (NAS),  
ALAMEDA, CALIFORNIA

Encl: (1) Well Location Selection Meeting Minutes for November 4, 1994

1. A meeting was held on 4 November 1994 to finalize the location of new wells at various Installation Restoration sites for the Remedial Investigation/Feasibility Study at NAS Alameda. Enclosure (1) is the meeting minutes for that meeting.
2. If you have any questions regarding this matter I can be reached at (415) 244-2559, FAX (415) 244-2553.

**Original signed by:**

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By direction

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**MEETING MINUTES**

**SELECTION OF FINAL SET OF SHALLOW  
AND DEEP WELL LOCATIONS FOR CTO 0280**

**NOVEMBER 4, 1994  
NAS ALAMEDA  
8:00 am**

**ATTENDEES:** Tom Lanphar - Cal EPA - DTSC  
James Nusrala - Cal EPA - RWQCB  
James Ricks - U.S. EPA  
Gary Munekawa - EFAWEST  
Susan Willoughby - PRC Environmental Management, Inc.  
Kenneth Leung - Montgomery Watson  
Shelly Hill - Montgomery Watson  
Ann Klimek - NAS Alameda

This meeting was held to finalize the locations of proposed shallow and deep wells to be installed at Installation Restoration (IR) sites at the Naval Air Station (NAS) Alameda under the Navy's Contract Task Order (CTO) No. 0280. The proposed wells discussed during the meeting include the following:

- Deep wells at Sites 1, 2, and the Runway Area.
- Deep wells at the Southeast Area encompassing Sites 3, 4, 7B, 7C, 9, 10B, 11, 13, 16, and 19.
- Shallow and deep wells at Site 7A.
- Shallow wells at Sites 3, 5, 9, 13, 16, and 19.

*Deep Wells at Sites 1, 2, and the Runway Area*

**Proposed Action:** The Navy proposed that no additional wells were necessary at these sites. The proposal was based on the results of the chemical analyses performed on the deep HydroPunch samples collected from these sites which indicate that the second water bearing zone has not been impacted by the chemicals originating from the landfill.

**Consensus:** The Cal EPA-DTSC, Cal EPA-RWQCB, U.S. EPA, and the Navy, hereby referred to as the Team for this document, agreed that no additional deep well is required for Sites 1 and 2.

At one location on the south side of the Runway Area, near the Least Tern Sanctuary, carbon disulfide was detected in the deep HydroPunch

Enclosure (1)

At one location on the south side of the Runway Area, near the Least Tern Sanctuary, carbon disulfide was detected in the deep HydroPunch samples at concentrations of 200 and 300 parts per billion (these values were adjusted by the PRC chemist). The source of the carbon disulfide is unknown, and the decision to place a well was deferred until the following information could be collected:

- Evaluate whether the reported detection of carbon disulfide is due to laboratory contamination. This action item will be performed by PRC no later than November 9, 1994.
- Examine whether carbon disulfide is on the California hazardous substance list, and whether a preliminary remediation goal has been established for carbon disulfide by the State of California. This action item will be completed by Cal-EPA DTSC no later than November 9, 1994.
- Evaluate whether carbon disulfide is a breakdown product of natural organics through biodegradation. This action item will be performed by PRC no later than November 9, 1994.

If the information shows there is a potential for health or environmental risk, a deep well will be installed near the deep hydropunch sampling location CPT-RA-23.

**RESOLUTION: (November 10, 1994)**

**Based on the information gathered, the source of carbon disulfide is still unknown. However, carbon disulfide is used as an industrial solvent, and can, under certain circumstances, result from a reaction between elemental sulfur and petroleum. It also can be emitted as a gas from certain organic soils. Carbon disulfide is on the Hazardous Substances List. Because of the potential threat to the marine environment, the decision was made to install the deep well near CPT-RA-23.**

*Deep Wells at the Southeast Area*

Proposed Action:

In addition to previously proposed deep wells (D11-01, D7C-01, D13-01, D10B-01, D09-01, D19-01), two additional deep wells were proposed for the Southeast Area. These two wells are D-10B-02, located adjacent to CPT-S10B-1, and D-03-01, located at the northern most portion of the southeast corner of the base adjacent to CPT-S03-01. Well D10B-02 will be placed near CPT-S10B-1 because the hydropunch sample from this location contained benzene at 44 parts

per billion (ppb) at a depth of 40 feet (also contained other VOCs and TPH). Well D-03-01 will be installed near CPT-S03-01 to provide deep groundwater gradient information.

Consensus:

The Team agreed with the location of D-10B-02. However, the Team decided to move the location of D-03-01 next to the monitoring well M-03-04 (see Shallow Wells at Site 3) to provide vertical migration data. In addition to these deep wells the Team agreed that one shallow well be installed next to the deep well D-10B-1 to provide both vertical migration information and because benzene was found in shallow well MW530-1 (to the east) at 19 ppb.

Shallow and Deep Wells at Site 7A

Proposed Action:

Two shallow wells, M-07A-06 and M-07A-07, were proposed at Site 7A. These wells are located on the eastern side of the site (across Main Street if possible). The shallow hydropunch sample CPT-S7A-10 on the east side of the site contained benzene (220 ppb), toluene (47 ppb), ethylbenzene (420 ppb), xylene (4200 ppb), TPH diesel (2510 ppb) and TPH gasoline (16500 ppb). The proposed shallow wells would be placed in an attempt to monitor the extent of these contaminants.

Three deep monitoring wells (D-7A-01, D-7A-02, and D-7A-03) were proposed at Site 7A to provide horizontal groundwater gradient data. Two of the monitoring wells (D-7A-02 and D-7A-03) are proposed to be located adjacent to shallow monitoring wells for vertical gradient evaluation. Monitoring wells D-7A-01, D-7A-02, and D-7A-03 are located adjacent to CPT-07A-02, CPT-07A-03, and CPT-07A-04, respectively. All three wells were proposed to monitor the elevated levels of organics found in the second water bearing zone at these CPT locations.

Consensus:

The Team agreed with the number and location of shallow wells proposed.

The Team also agreed with the number and the locations of the proposed deep wells for this site.

Shallow Wells at Site 3

Proposed Action:

A total of five shallow wells (M-03-04 through M-03-08) were proposed. The exact locations were shown in the package presented to the Team during this meeting. The five wells were proposed based on the findings of Geoprobe sampling (confirmatory samples by CLP) which showed that the Geoprobe locations where the highest benzene

and TPH gasoline were detected, would be surrounded by the proposed wells.

Consensus:

The Team agreed with the number and the locations of the shallow wells for Site 3.

Five soil borings were originally proposed at Site 3. Because of the additional Geoprobe investigation, the Team agreed that these five borings are no longer required. However, the Team agreed that soil samples will be collected for chemical analyses during the installation of the five shallow wells. The sampling intervals and the required chemical analyses will be the same as for the five proposed soil borings listed in the Phase 2A follow-on field sampling plan.

The Team discussed the detection of motor oil detected in Geoprobe sample 03GB038 near McDonald's, agreeing that it was possible the 1000 ppb motor oil may not have been caused by the historical spill at Site 3. Because of this, the Team thought the problem would likely be addressed by other Navy programs (i.e., Environmental Baseline Survey, or RCRA Program). Also, Tom Lanphar mentioned that the area near Building 398, to the northwest of Site 3, will require further investigation in the future; Mr. Lanphar felt that contamination found in the immediate area around that building may be caused by practices at Building 398, and that it was possible in the future, Building 398, and immediate surrounding area may become part of the IR program. Any data collected by other contractors will be included in the remedial investigation/feasibility study reports.

Shallow Wells at Site 5

Proposed Action:

Two additional shallow wells, M-05-11 and M-05-12, were proposed inside Building 5 due to detection of elevated levels of chlorinated solvents in the shallow hydropunch samples collected in the vicinity of the overspray trench areas. The overspray trench areas are located in the northwestern and northeastern corners of the building.

Consensus:

The Team agreed with the locations of these two proposed wells. No other wells were requested by the Team. The Team further discussed the possibility that another Navy contractor (i.e. International Technology Corporation) may conduct additional groundwater investigation using Hydropunch or Geoprobe on the eastern side of Site 5, east of well M-05-08. The extent of the chlorinated solvent contamination is not fully defined by the wells installed under the IR program.

### Shallow Wells for Site 9

**Proposed Action:** Two shallow wells, M-09-05 and M-09-06, were proposed at Site 9. The proposed wells will be placed to the southeast of CPT-S09-09 and -10 where TCE, DCE, TCA and BTEX compounds were present at high concentrations in the shallow hydropunch samples. The piezometers installed at Site 9 suggest the shallow groundwater gradient is to the southeast.

**Consensus:** The Team agreed with the number of locations of the two proposed shallow wells.

### Shallow Wells for Site 13

**Proposed Action:** Two shallow wells, M-13-08 and M-13-09, were proposed at Site 13 to further characterize the groundwater flow direction and gradient eastward into the residential neighborhood.

**Consensus:** The Team agreed with the number and locations of the proposed shallow wells. However, the hydropunch sample near the proposed well location showed that the TPH diesel concentration was 2100 ppb at 22 feet bgs. Based on this data, the Team agreed that well M-13-08 be screened from approximately 22 feet to 32 feet below ground surface (bgs), and well M-13-09 be screened from approximately at 5 feet to 15 feet bgs (at groundwater interface).

The Phase 2A follow-on field sampling plan proposed five soil borings be installed to evaluate the presence of petroleum hydrocarbons at Site 13. Because of the additional Geoprobe and optical cone penetrometer investigations conducted at the Site, the Team agreed that these five soil borings would not be necessary to evaluate the presence of petroleum hydrocarbons in the originally planned boring locations. However, because an oily spot was reported at the southeastern corner of the site near Boring 13-33, the Team decided to place the five borings around the oil spot for soil characterization. For each boring, soil samples will be collected at the surface, 2.5 feet bgs and the groundwater interface for volatile organic chemicals (VOCs), total petroleum hydrocarbons (TPH) - purgeable, TPG-extractable, and metal analyses. Also a grab groundwater sample will be collected from three of the five borings for TPH analysis using EPA Method 8015 and VOC analysis. Selection of the three borings from which grab groundwater samples to be collected will be made in the field. If floating product is observed, one sample will be collected for organic analysis using EPA Method 8270 (GC/MS).

Shallow Well at Site 16

Proposed Action: One shallow well (M-16-04) was proposed at Site 16. Originally this well was to be placed at the center of the eastern edge of the site. To optimize placement of this well, three Geoprobe samples were collected along the eastern site border. Results indicated very low levels of pyrene and 1,2-dichloroethene in soil. The Navy proposed moving the location of this well northwest to monitor the elevated levels of polychlorinated biphenyls (PCBs) detected in soil samples collected at shallow depths.

Consensus: The Team agreed to move well M-16-04 to the proposed location.

Shallow Well at Site 19

Proposed Action: One monitoring well, M-19-05, was proposed at the eastern site border to characterize groundwater flow directions and gradients.

Consensus: The Team agreed with the number and location of the M-19-05 but decided that the well be screened from approximately 10 feet to 30 feet bgs based on the data from the hydropunch samples showing elevated TPH diesel concentrations at 22 feet bgs.